

Chapter 10: Disaster Recovery Procedures

C. Medium-Sized Incident Books Not Printed on Coated Paper

A medium-sized disaster is one that will test the outer limits of your ability to cope. Damage will be to fewer than 500 volumes. You will have to purchase supplies and use all available staff members. A pipe that has burst or a small fire are possible scenarios. The following are steps to be taken in the event of a medium-sized incident:

1. Disaster is reported to staff members.
2. Appropriate sections of the disaster plan are implemented.
3. Appropriate staff visit the site to determine the extent of the damage. A structural engineer or someone from the safety office may be required to declare the building is safe to occupy. Steps should be taken to correct the problem. Plant Operations/Maintenance should be contacted through the appropriate channels. It may be necessary to clean the disaster area before removing the affected materials. Water may have to be pumped from the area or debris removed from the floor. **N.B. The safety of the staff is of the utmost importance.** Remember that people are more valuable than books!
4. The decision whether or not to close the institution or sections of the building should be made by the senior administrator.
5. The environment of the disaster area should be stabilized. Dehumidifiers and fans can be used to lower the humidity and keep pockets of stagnant air from forming. The temperature should be lowered as much as possible. In the winter lower the heat as much as possible; in the summer (and if you have air conditioning) cool the air as much as possible. Warmer temperatures are more conducive to mold growth. Extreme changes in temperature and humidity can be damaging to books. The conditions should be returned to normal as soon as possible.
6. Steps should be taken to limit the extent of damage. If the damage was caused by water, place plastic sheeting over affected areas. A **moisture barrier** should be set up to limit the area of excessive humidity.
7. The Disaster Recovery Coordinator should make decisions about moving the books. How the books are to be moved and where they will be moved to are the most important questions.

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8. If books are muddy, and there is staff and time, the books should be washed prior to drying. **This treatment is not suitable for leather bound books, manuscripts, photographs, works of art on paper, or books that are open.** Washing requires a large space with adequate drainage. Several plastic garbage cans, each with a hose, should be set up. The nozzle of the hose should be at the base of the garbage can. As the can fills with water this should allow the dirtiest water to overflow onto the floor. The books should be held tightly closed. Submerge the books and allow the running water to rinse off some of the mud. Moving down the row of garbage pails, the books can be sponged off until most of the dirt is removed. **N.B.** Sponging does not mean rubbing, it is dabbing the dirt off.
9. Freeze those materials that cannot be air dried (see Special Media, p. 10E.1). **Mold will begin to grow within 72 hours.** If all the books cannot be salvaged in that period of time, some must be frozen. Start with the wettest books. They will usually be on the bottom shelves. It may be necessary to use the freezers of staff members. Consult the institution's list of available freezers.
10. Items to be frozen must be wrapped. They may be wrapped in freezer paper, waxed paper, silicone paper, or plastic bags. Take a piece of paper and fold it around the book. **It does not have to be wrapped tightly like a present.** Sheets pre-cut to a uniform size will speed up the process. Wrapping keeps the items separate during the freezing process so they do not stick together. If there has been a delay in getting the items to a freezer, the freezing process may be facilitated by placing dry ice on the top of packing containers. If time and supplies are stretched to the breaking point, you can cut corners and wrap every other book.
11. Books should be removed from the disaster site. **Make sure that wet books stay with other wet books. Do not mix wet books with dry books.** They should be packed in either cardboard boxes (12 x 18 x 12) or plastic milk crates. The maximum size of the box should be one and a half cubic feet. The crates should not be overloaded. Wet books should never be packed on their *fore-edges*, because the text can pull away from the binding. Books should be placed with their spines down. Usually one layer of books is the maximum to be placed in a container. Pack the boxes no more than 70% full.
12. Wet books are quite heavy and their weight can destroy a carton. These boxes should not be stacked one on top of the other, because they can collapse and cause further damage. Wet books should be handled as little as possible. If they are distorted they should be packed in the shape that they are found in order to prevent further damage. Cardboard should be placed under charred material because it is extremely fragile.

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13. A basic inventory of removed material should be maintained. Never write on wet books, because they are easily damaged. Boxes should be numbered and labeled with waterproof ink. Information included on the box should include classification numbers, the range items were taken from, general estimate of amount of damage, priority for salvage and the destination of the material if it is going to an off-site location.
14. It is necessary to control the environment of the drying area. A relative humidity between 40-55% is considered best. Fans and dehumidifiers may be required. Wet trash should be removed periodically from the recovery area. Dehumidifiers will help keep the area as dry as possible. Also the person monitoring the drying process should check frequently for mold growth. Circulating air is critical for encouraging evaporation. Use fans, blowers or the like. Because things are in such a state of flux, the security of the work area and the items in it needs to be strict. Access to the work area should be limited to recovery personnel. The area should be capable of being locked.
15. When books are air-dried they should be placed on their heads (with print upside down) on blotters with their boards slightly opened, about 60 degrees. It may be necessary to use styrofoam or foam rubber supports to keep the books in place. The blotters should be changed when they become wet. As the book begins to dry, unprinted newsprint or paper towels can be interleaved throughout the book, about every 50 pages. These "blotters" must also be changed, periodically.
16. If the cover is destroyed, the book can be unbound into individual *signatures*. The *signatures* can then be hung on nylon fishing line (20 or 40 pound test line) and allowed to air dry. Use three lines to support the signatures. A small, damp book can also be dried in this manner.
17. Air drying takes up a great deal of room. Allow room for removing the damp blotters and replacing them with dry ones. When the book is almost dry it should be closed and a light weight placed on top. These books should not be stacked. If the book is allowed to dry completely in an open position there will be distortion. A book is dry when it no longer feels cool to the touch.
18. The Disaster Recovery Coordinator should fill out forms relating to the disaster. Every institution should have a standard form for documenting problems. Information needed includes location, time, date, nature of the problem, staff involved, action taken, number of items damaged, recovery strategy, supplies used, and clean-up process. Photographs should be taken throughout the recovery process. If insurance claims are involved, more detailed documentation may be required.

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19. When things have calmed down and the shock has worn off check the disaster area. Make sure that all damaged items are found. Check the clean-up of disaster area. The shelves may have to be cleaned with a germicidal cleaner. Hospitals can be a good source of information about cleaning because they understand the concept of sterile. If liquid Lysol or a similar cleaning solution is used, it should be mixed in the ratio of one cup cleaner to one gallon of water. If the disaster involved water, it is a good idea to check the underside of the shelves and all nooks and crannies for standing water. Disposable cleaning rags should be used. Some cleaners are caustic so protective clothing, e.g. rubber gloves, may be required for workers.
20. Make decisions on rebinding, repairs, and, if things were lost, replacement. If books are returned to the shelf without having any repair work done, an institution may want to initiate repairs when a patron complains about a specific item. Protective enclosures, e.g. *phase boxes*, may be the most cost effective use of any repair money.
21. Return books to shelves. After drying, especially vacuum drying, a book will be drier than it should be. A book can absorb moisture from the air, but this is a lengthy process. Peter Waters of the Library of Congress thinks that six months may be required for a book to stabilize.
22. Discuss disaster recovery operations. Where did the disaster plan not function well? Are there possible modifications to the plan? Write a report summarizing what happened and how the problem was handled.
23. Periodically check the affected area to make sure that there is no mold growth. Books that have been moldy will always be susceptible to mold growth.
24. Replace disaster recovery supplies used during the incident.